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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

81 Higuera Street, Suite 200
San Luis Obispo, California 93401-5427

ORDER NO. 93-73

WASTE DISCHARGE REQUIREMENTS FOR EL MODENO GARDENS, INC. WHOLESALE PLANT NURSERY SAN BENITO COUNTY

The California Regional Water Quality Control Board, Central Coast Region, (hereafter Board), finds that:

1. El Modeno Gardens, Inc., (hereafter Discharger) operates a Wholesale Plant Nursery at 1298 Orchard Road, San Benito County as shown on Attachment "A" of this Order. Ornamental plants are grown in pots in open fields and greenhouses. Irrigation runoff is discharged to Pacheco Creek.

2. A complete application for authorization to discharge wastes was submitted on March 5, 1993, by Jo-Anne Groot, Vice President for the Discharger.

3. The Discharger uses an on-site well and San Felipe water for irrigating potted plants. About 80 percent of the irrigated area currently has a computerized irrigation system that manages the application of water and fertilizer. The computerized irrigation system optimizes the use of fertilizer and water. Consequently, the amount of leached fertilizer and the volume of irrigation runoff is reduced.

4. The Discharger adds fertilizer to the irrigation water and/or directly to the soil. Pesticides and herbicides are also used at the facility on an as-needed basis.

5. Irrigation runoff discharged during summer comes from the nursery. However, when its raining runoff comes from other sources such as neighboring nut and fruit orchards and a relatively large watershed (hundreds of acres). The 30-day average daily dry weather flow reported by Discharger is 62,000 gallons. Irrigation runoff samples collected on August 22, 1991, and June 8, 1993 have the following average concentrations.

Constituent	Concentration (mg/l)
pH	8.1
Total Dissolved Solids	1330 mg/l
Sodium	180 "
Potassium	80 "
Chloride	216 "
Sulfate	212 "
Nitrate	401 "

Constituent	Concentration (mg/l)	
Total Phosphorous as PO_4	16	"
Total Suspended Solids	67	"

The June 8, 1993, sample was also analyzed for organo-phosphate and organo-chlorine pesticides. None of these pesticides were detected.

6. The Water Quality Control Plan, Central Coastal Basin, (Basin Plan) was adopted by the Board on November 17, 1989, and approved by the State Water Resources Control Board on August 16, 1990. The Basin Plan incorporates statewide plans and policies by reference and contains a strategy for protecting beneficial uses of the waters of the State.

7. Existing and intermittent beneficial uses of Pacheco Creek that may be affected by the discharge include:

   a. Municipal and domestic supply;
   b. Agricultural supply;
   c. Ground water recharge;
   d. Water contact recreation;
   e. Non-contact water recreation;
   f. Wildlife habitat;
   g. Cold fresh water habitat;
   h. Warm fresh water habitat;
   i. Fish migration; and
   j. Fish spawning.

8. These waste discharge requirements are for an existing facility and are exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 21000, et seq.) in accordance with Section 15301, Chapter 3, Title 14, of the California Code of Regulations. The facility has been operating since 1980.

9. Discharge of waste is a privilege, not a right, and authorization to discharge wastewater is conditional upon the discharge complying with provisions of Division 7 of the California Water Code and any more stringent effluent limitations necessary to implement water quality control plans, to protect beneficial uses, and to prevent nuisance. Compliance with this Order should assure this and mitigate any potential adverse changes in water quality due to the discharge.

10. On July 28, 1993, the Board notified the Discharger and interested agencies and persons of its intent to issue waste discharge requirements for the discharge and has provided them with a copy of the proposed Order and an opportunity to submit written views and comments, and scheduled a public hearing.

11. In a public hearing on November 12, 1993, the Board heard and considered all comments pertaining to the discharge and found this Order consistent with the above findings.

IT IS HEREBY ORDERED, pursuant to authority in Section 13263 of the California Water Code, that El Modeno Gardens, Inc., its agents, successors, and assigns, may discharge irrigation runoff to Pacheco Creek providing compliance is maintained with the following:

(Note: Other prohibitions and conditions, definitions, and the method of determining compliance are contained in the attached "Standard Provisions and Reporting Requirements for Waste Discharge Requirements" dated January 1984. Applicable paragraphs are referenced in paragraph D.2. of this Order.)

Requirements in this Order are provided with superscripts to indicate their source. These superscripts are described below:

A = Basin Plan
B = Administrative Procedures Manual (SWRCB)

Requirements without superscripts are based on staff's professional judgment.

A. DISCHARGE PROHIBITIONS

1. The discharge of wastewater other than irrigation runoff is prohibited.

2. The discharge of irrigation runoff to other than the designated discharge point (36°57'30" N. Latitude and 121°22'0" W. Longitude) at Pacheco Creek as shown on Attachment "A" of this Order is prohibited.

B. EFFLUENT LIMITATIONS

1. Discharge to Pacheco Creek during dry weather shall not exceed a monthly average daily flow of 62,000 gallons.

2. Discharge shall not exceed 52 lbs of nitrate nitrogen running 12-month 30-day average until July 1, 1995. If the Discharger can demonstrate that surface and ground waters are not adversely impacted by this discharge, the discharge limit for nitrate nitrogen will not be changed for the duration of the Order. However, if there are adverse impacts, Discharger will mitigate the impacts and the Executive Officer will recommend an appropriate lower nitrogen limit.

3. Discharge shall not have a pH less than 7.0 or greater than 8.3.[A]

4. Discharge shall not contain toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in human, plant, animal, or aquatic life.[A] Toxicity shall be measured by acute and chronic toxicity tests. No more than one of three consecutive static acute bioassays shall result in less than 90% survival in undiluted effluent, and no more than one test shall result in less than 70% survival in any 11 consecutive static acute bioassay tests. Chronic toxicity of the effluent shall not exceed **1 TUc.**

   If the discharge consistently exceeds an acute or chronic toxicity effluent limitation, a toxicity reduction evaluation (TRE) is required. The TRE shall include all reasonable steps to identify the source(s) of toxicity. Once the source of toxicity is identified, the Discharger shall take all reasonable steps necessary to reduce toxicity to the required level.

5. Discharge shall not contain concentrations of pesticides or herbicides in excess of the limiting concentrations set forth in California Code of Regulations, Title 22, Chapter 15, Article 5.5, Section 64444.5, Table 5 as listed below.[A]

Constituent	Maximum Contaminant Level (MCL) mg/l
(a) Chlorinated Hydrocarbons	
Endrin	0.0002
Lindane	0.004
Methoxychlor	0.1
Toxaphene	0.005
(b) Chlorophenoxys	
2,4-D	0.1
2,4,5-TP Silvex	0.01

Constituent	Maximum Contaminant Level (MCL) mg/l
(c) Synthetics	
Atrazine	0.003
Bentazone	0.018
Benzene	0.001
Carbon Tetrachloride	0.0005
Dibromochloropropane	0.0002
1,4-Dichlorobenzene	0.005
1,2-Dichloroethane	0.0005
1,1-Dichloroethylene	0.006
1,3-Dichloropropene	0.0005
Ethylbenzene	0.680
Ethylene Dibromide	0.00002
Molinate	0.02
Monochlorobenzene	0.03
Simazine	0.01
1,1,2,2-Tetrachloroethane	0.001
Tetrachloroethylene	0.005
Thiobencarb	0.07
1,1,1-Trichloroethane	0.2
1,1,2-Trichloroethane	0.032
Trichloroethylene	0.005
Vinyl Chloride	0.0005
*Xylenes	1.75

*MCL is for either a single isomer or the sum of the isomers.

6. Discharge shall not contain concentrations of chemical constituents in excess of the limits specified in California Code of Regulations, Title 22, Article 4, Chapter 15, Sections 64435, Tables 2 and 3 as listed below.

	Limiting Concentration mg/l			
Constituent	Lower	Optimum	Upper	Maximum Contaminant Level
Fluoride*				
53.7 and below	0.9	1.2	1.7	2.4
53.8 to 58.3	0.8	1.2	1.5	2.2
58.4 to 63.8	0.8	1.0	1.3	2.0
63.9 to 70.6	0.7	0.9	1.2	1.8
70.7 to 79.2	0.7	0.8	1.0	1.6
79.3 to 90.5	0.6	0.7	0.8	1.4

Constituent	Lower	Optimum	Upper	Maximum Contaminant Level
Inorganic Chemicals				
Aluminum				1.0
Arsenic				0.05
Barium				1.0
Cadmium				0.01
Chromium				0.05
Lead				0.05
Mercury				0.002
Selenium				0.01
Silver				0.05

*Annual Average of Maximum Daily Air Temperature, ^{0}F based on temperature data obtained for a minimum of five years.

C. RECEIVING WATER LIMITATIONS

(Receiving water quality is a result of many factors, some unrelated to the discharge. This permit considers these factors and is designed to minimize the influence of the discharge to the receiving water).

The discharge shall not cause:

1. Violations of temperature, color, pH, and turbidity limits listed below.

Constituent	Maximum, mg/l (Unless otherwise noted)
pH[A]	Within limit of 7.0 to 8.3 at all times, and not changed more than 0.5 units from natural background pH.
Temperature	Maximum increase of 2°F above natural background temperature.
Color[A]	Maximum increase of 15 units or 10% above natural background color, whichever is greater.
Turbidity (NTU)[A]	Not to exceed the following:

Natural Turbidity (NT)**, NTU	Maximum Increase
< 50	20%
50< NT <100	10 NTU
>100	10%

**"Natural Turbidity" and other natural background levels of constituents shall be determined from receiving water samples taken upstream of the discharge point.

2. Dissolved Oxygen Concentrations in the Pacheco Creek to be depressed below 5.0 mg/l or median values to fall below 85% of saturation.[A]

3. Floating material, including solids, liquids, foams, and scum, in the Pacheco Creek in concentrations that cause nuisance or adversely affect beneficial uses.[A]

4. Suspended material in the Pacheco Creek in concentrations that cause nuisance or adversely affect beneficial uses.[A]

5. Settleable material in the Pacheco Creek in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.[A]

6. Oils, greases, waxes, or other similar materials in the Pacheco Creek in concentrations that result in a visible film or floating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect beneficial uses.[A]

7. Biostimulatory substances in Pacheco Creek in concentrations which promote aquatic growths that cause nuisance or adversely affect beneficial uses.[A]

8. Suspended sediment load and suspended sediment discharge rate to Pacheco Creek to be altered in such a manner as to cause nuisance or adversely affect beneficial uses.[A]

9. Individual pesticide or combination of pesticides to reach concentrations in Pacheco Creek that adversely affect beneficial uses.[A]

D. PROVISIONS

1. Discharger shall comply with "Monitoring and Reporting Program No. 93-73," or any amendments thereto, as ordered by the Executive Officer.

2. Discharger shall comply with all items of the attached "Standard Provisions and Reporting Requirements for Waste Discharge Requirements" dated January, 1984; except item Nos. A.1., 4., 5., 6., 8., 14., 15., 16., 17.; C.8., 9., 18.; D.1., and 2.

3. Discharger shall submit a workplan by December 31, 1993. The workplan shall contain a proposal for ground water monitoring with implementation schedule as required in the Receiving Water Monitoring section of M&R Program No. 93-73.

4. Pursuant to Title 23, Division 3, Chapter 9, of the California Code of Regulations, the Discharger must submit a written report to the Executive Officer not later than May 1, 1998, addressing:

   a. Whether there will be changes in the continuity, character, location, or volume of the reclaimed wastewater; and,

   b. Whether, in their opinion, there is any portion of the Order that is incorrect, obsolete, or otherwise in need of revision.

I, WILLIAM R. LEONARD, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Coast Region, on November 12, 1993.

William R. Leonard

Executive Officer

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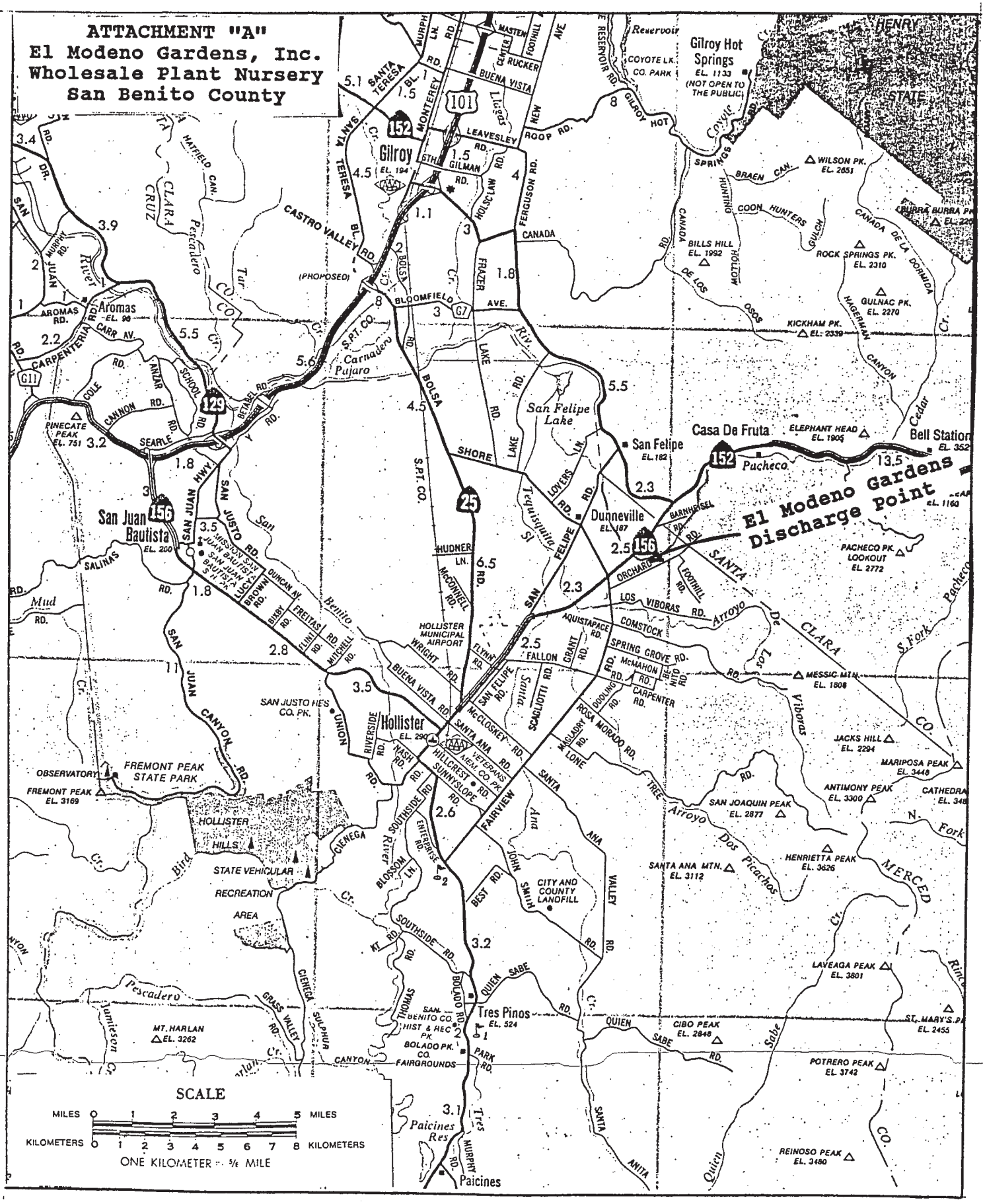
ATTACHMENT "A"
El Modeno Gardens, Inc.
Wholesale Plant Nursery
San Benito County
El Modeno Gardens
Discharge Point
Gilroy
Gilroy Hot Springs
San Felipe
Casa De Fruta
Pacheco
Dunneville
San Juan Bautista
Hollister
Tres Pinos
Aromas
Paicines
San Felipe Lake
Hollister Municipal Airport
Fremont Peak State Park
Hollister Hills State Vehicular Recreation Area
SCALE
MILES 0 1 2 3 4 5 MILES
KILOMETERS 0 1 2 3 4 5 6 7 8 KILOMETERS
ONE KILOMETER = 5/8 MILE

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

MONITORING AND REPORTING PROGRAM NO. 93-73
FOR
EL MODENO GARDENS, INC.
WHOLESALE PLANT NURSERY
SAN BENITO COUNTY

EFFLUENT MONITORING

An effluent monitoring station shall be established such that a representative wastewater sample can be collected before discharge to Pacheco Creek and analyzed according to Table 1 below.

Table 1

Parameter[A]	Units	Sample Type	Minimum Frequency
Flow	gal/day	Metered	Daily
Total dissolved solids	mg/l	Grab	Quarterly (Jan,Apr,Jul,Oct)
Sodium	"	"	" " " "
Potassium	"	"	" " " "
Chloride	"	"	" " " "
Total phosphate	"	"	" " " "
Turbidity	NTU	"	Monthly
Temperature	°F	"	"
Dissolved oxygen	"	"	"
Nitrate	"	"	"
Nitrite	"	"	"
Ammonia	"	"	"
Unionized ammonia	"	"	"
Total suspended solids	"	"	"
pH	Units	"	"
*Acute Toxicity	TUa	"	Annually (January)
**Chronic Toxicity	TUc	"	Once Every Five Years (January 1994)***
(a) Chlorinated Hydrocarbons			
Endrin			"
Lindane			"
Methoxychlor			"
Toxaphene			"
(b) Chlorophenoxys			
2,4-D			"
2,4,5-TP Silvex			"
(c) Synthetics			
Atrazine			"
Bentazone			"
Benzene			"

Parameter[A]	Units	Sample Type	Minimum Frequency
Carbon Tetrachloride			"
Dibromochloropropane			"
1,4-Dichlorobenzene			"
1,2-Dichloroethane			"
1,1-Dichloroethylene			"
1,3-Dichloropropene			"
Ethylbenzene			"
Ethylene Dibromide			"
Molinate			"
Monochlorobenzene			"
Simazine			"
1,1,2,2-Tetrachloroethane			"
Tetrachloroethylene			"
Thiobencarb			"
1,1,1-Trichloroethane			"
1,1,2-Trichloroethane			"
Trichloroethylene			"
Vinyl Chloride			"
*Xylenes			"
Fluoride			"
Aluminum			"
Arsenic			"
Barium			"
Cadmium			"
Chromium			"
Lead			"
Mercury			"
Selenium			"
Silver			"

*Compliance with the acute toxicity limit shall be determined by short term toxicity tests on undiluted effluent using EPA's "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fourth Edition (EPA/600/4-90/027)". Oncorhynchus mykiss (rainbow trout) is the recommended acute test species.

Compliance with the chronic toxicity limit shall be determined by using critical life stage toxicity test. Initially, at least three test species with approved test protocols shall be used to measure compliance with the toxicity limit. The test species shall include a vertebrate, an invertebrate, and an aquatic plant. If the three test species meet the chronic toxicity limit, no further chronic toxicity testing is required during the life of the permit. However, if any of the three test species exhibit chronic toxicity greater than **1.0 TUc, monitoring may be reduced to the most sensitive species and conducted annually in January. If chronic toxicity on the most sensitive species exceeds **1.0 TUc** during the second year, another chronic test shall be conducted within 30 days

of knowing the result. Dilution and control waters should be obtained from an unaffected area of the receiving water. Standard dilution water can be used if the receiving water exhibits toxicity greater than 1.0 TUc. The tests in Table 2 below shall be used to measure chronic toxicity.

Table 2

Critical Life Stage Toxicity Tests

Species	Effect	Test Duration (days)	Reference
Fathead minnow (Pimephales promelas)	Larval survival and growth rate	7	Horning & Weber, 1989
Water flea (Ceriodaphnia dubia)	Survival; number of young	7	Horning & Weber, 1989
Alga (Selanastrum capricornutum)	Growth rate	4	Horning & Weber, 1989

Toxicity Test Reference: Horning, W.B. and C.I. Weber (eds.). 1989. Short-term methods for estimating the chronic toxicity of effluents and receiving waters to freshwater organisms. Second edition. U.S. EPA Environmental Monitoring Systems Laboratory, Cincinnati, Ohio. EPA/600/4-89/001.

If the discharge consistently exceeds the effluent acute and chronic toxicity limits, a toxicity reduction evaluation (TRE) is required. The TRE shall include all reasonable steps to identify the source(s) of toxicity. Once the source of toxicity is identified, the discharger shall take all reasonable steps necessary to reduce toxicity to the required level.

***Constituents detected during the January 1994, sampling shall be sampled annually in January. Constituents exceeding effluent limits shall be sampled and analyzed within 30 days of knowing the results and shall be sampled annually in January. The Executive Officer may require more frequent sampling until cause of non-compliance is identified and corrected. Constituents not detected during the January 1994 sampling shall be sampled in accordance with the once in every five years sampling frequency.

RECEIVING WATER MONITORING

Receiving water monitoring stations shall be established 100 feet upstream and downstream of the discharge point. Grab samples shall be collected at these stations and analyzed according to Table 3 below.

Table 3

Parameter	Units	Location	Minimum Frequency
Total dissolved solids	mg/l	Up & Downstream	Monthly
Nitrate	"	"	"
Turbidity	NTU	Up & Downstreams	"
Temperature	°F	"	"
Dissolved oxygen	mg/l	"	"
pH	units	"	"
*Ammonia	mg/l	Downstream only	"
*Unionized ammonia	mg/l	" "	

*Should be analyzed if the effluent unionized ammonia exceeds 0.025 mg/l.

Monthly and quarterly samples shall be collected during the first week of the month. Sampling day for the current month must be different from the previous month sampling day. However, effluent and receiving water samples shall be collected only if the precipitation in any of the previous three days, before sampling, does not exceed 0.1 inch. In this instance samples may be collected beyond the first week of the month. When Pacheco Creek is not flowing, a statement to that effect may be submitted in lieu of creek sampling.

GROUND WATER MONITORING

Discharger shall evaluate existing wells and submit to the Executive Officer a report discussing their adequacy. If existing wells are adequate, Discharger must present sufficient hydrogeologic documentation to validate the claim. If additional monitoring wells are needed, the report shall discuss the proposed location and depth of monitoring wells and the technical justification of the proposal. Monitoring wells, if needed, shall be installed within 60 days following the submittal of this report. After construction, reference point elevation and well logs of each well shall be submitted to this office. After installation of all monitoring wells, Discharger shall submit a scaled site map showing the discharge location and monitoring wells. Monitoring wells shall be numbered and identified as downgradient or upgradient of the discharge area with reference to ground water flow. Monitoring wells shall meet or exceed well standards contained in the Department of Water Resources Bulletins 74-81 and 74-90.

Discharger shall also comply with the monitoring well reporting provisions of Section 13750 through 13755 of the California Water Code.

Monitoring wells shall be sampled in accordance with Table 4.

TABLE 4

Constituents	Units	Type of Sample	Minimum Sampling and Analyzing Frequency	
Groundwater Elevation (Relative to approved datum)	feet	-	Semi-annually (Apr. and Oct.)	
pH	pH Units	Grab	"	"
TDS	mg/l	"	"	"
Sodium	"	"	"	"
Chloride	"	"	"	"
Sulfate	"	"	"	"
Nitrate	"	"	"	"

PRECIPITATION MONITORING

Daily precipitation must be measured and submitted with the quarterly monitoring report. Precipitation data recorded daily at a nearby weather monitoring station is acceptable.

REPORTING

Quarterly monitoring reports shall be submitted on the month following each calendar quarter. Reports shall be submitted the last day of February, May, August, and October.

ORDERED BY William R. Leonard
Executive Officer

November 12, 1993
Date

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